DOCUMENT RESUME

ED 163 227 08 CE 018 899

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TITLE Common Intra-Cluster Competencies Needed in Selected Occupational Clusters. Health Occupations. Final Report.
INSTITUTION Des Moines Area Community Coll., Ankeny, Iowa.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.
BUREAU NO 409AH60116
PUB DATE May 78
GRANT G007603320
NOTE 96p.; Not available in hard copy due to thin type. For related documents see CE 018 900-916

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Cluster Grouping; Comparative Analysis; Educational Needs; *Health Occupations; Health Occupations Education; Job Analysis; *Job Skills; *Occupational Clusters; Postsecondary Education; Surveys; *Task Analysis

ABSTRACT

An analysis of competencies practiced by seventeen health occupation groups was conducted to determine the extent to which commonality existed in job activities. (The groups include accredited records technician, aide/orderly, dental assistant, dental hygienist, dental lab technician, dietetic technician, licensed practical nurse, medical assistant, medical lab assistant, medical lab technician, nuclear medical technician, occupational therapist, operating room technician, orthopaedic physician's assistant, radiological technician, registered nurse, respiratory therapist.) Competencies for health occupations for which job entry preparation is available in community colleges were obtained from a literature review, professional associations, and health occupation education programs. The competencies from all sources were combined into a comprehensive single listing for distribution to a sample of 4,075 Iowa and upper midwest area health employees. Approximately 250 persons in each group were given the 720-item survey. They were asked to indicate the nature of each competency they practiced (skill or understanding), the frequency of practice, and the type of training needed to become proficient. The number of competencies common to all seventeen occupations was relatively small: twenty-five of a final 718 items. However, within smaller groups of occupations, extensive levels of common competencies existed. It was also found that a broad range of prior health occupations employment was reported by respondents for given occupations and that a diversity of responsibilities existed within selected occupational job titles. Recommendations drawn as a result of the study were that health occupation educators and instructional designers could utilize the findings to modify current delivery systems and emphasis on content. (Survey results are available for each of the seventeen groups--see CE 018 900-916.) (Author/JH)

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FINAL REPORT

Project No. 409 AH 60116

Grant No. G007 603 320

Common Intra-Cluster Competencies Needed in Selected Occupational Clusters

Health Occupations

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May, 1978

The research reported herein was performed pursuant to a grant with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

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CE 018 899

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ACKNOWLEDGEMENTS

Grateful appreciation is extended to the research staff who participated in and assisted with this project. Included are Mr. Steven K. Halstead and Mr. Richard E. Horney, Research Assistants, and Mrs. Debra L. Dyar, Research Aide.

The professionalism and dedication of these persons contributed significantly to the completion of the project.

CHAPTER I INTRODUCTION

Perspective and Need

Vocational education programs in the United States have developed rapidly at all educational levels and in every type of educational setting. The developmental efforts have included introduction of career awareness programming in elementary schools, expansion and refinement of vocational offerings in secondary education, establishment and growth of community college and vocational technical institute programs, implementation of adult vocational programs, and establishment of funding for special needs groups such as the handicapped and the disadvantaged in vocational education. The repertoire of programs, opportunities, and new vocational directions continues to expand annually.

New concepts are either emerging or being refined, such as the National Institute for Education's Experienced Based Career Education Project, and the evolution of majors in vocational or career education at colleges and universities.

Underlying the philosophy of each vocational education program thrust, of each career-related project, is the preparation and training of persons to enable them to find their spot in the world of work. To satisfy employment needs, individuals must develop skills and competencies to satisfy the needs and demands of occupational areas.

All too frequently the proliferation of vocational education programs has resulted in the development of individual program efforts oriented toward the production of "graduates" with skills and competencies needed to enter or advance in a single job classification or field. Frequently a person leaving the educational environment may be confronted with an unfavorable local employment situation where no job opening exists for the specialized training which she/he has obtained. The options for that person are often less than desirable, and subsequently less acceptable employment alternatives must be exercised. Geographic displacement at the inconvenience of family, employment in an unrelated job area, or perhaps even unemployment may result.

It was determined, therefore, that an intensive research effort was necessary to identify those competencies (skills and understandings) typical of a number of occupational titles within a specific job cluster. Several outcome benefits were projected. First was the definition of potential student transfer from one occupational area to another, based on occupational skills common to several occupations. Second, professional personnel engaged in educational program planning could design curricula to allow optimizing efficiency in teaching through the reduction of duplicative efforts in similar programs at the same institution. And thirdly, the identification of competencies needed in occupations would assist in new educational program development or "old" program restructuring.

Objectives

The objectives of this project were to identify an occupational cluster into which job entry is possible by means of completing an educational program available at a two-year post-secondary college or vocational-technical institute; to identify and analyze the competencies (skills and understandings) needed by employees in occupational classifications within the selected cluster; to crossmatch the competencies within the cluster to arrive at competencies common in all, and to assess the minimum training levels required to achieve each of those competencies; to define a model that could be employed for analysis of other occupational clusters in other research; and to present the findings in a format that could be utilized by educational program planners throughout the country.

CHAPTER II METHOD OF PROCEDURE

The multi-phased research project consisted of several major tasks. Initially, project personnel were identified and appointed to conduct the study. Concurrently, an advisory committee was established to lend direction, and to establish procedural parameters for the duration of the project.

An initial review and research task was the identification of an occupational target cluster for the project. Several assumptions were established. First, high employment levels in occupations would reflect higher occupational entry or retraining need probabilities than clusters with lower numbers of employees. Second, occupations within the cluster would be restricted to those through which entry is gained through post-secondary training of less than a baccalaureate degree.

Selection of the occupational cluster for investigation consisted of a mini-research activity within itself. A number of sources were examined to make this determination. Data was collected from the Iowa Employment and Security Commission (Job Services), from the Des Moines Area Community College admissions and placement offices, and from the Iowa Career Education Needs Information System (CENIS). Among the variables investigated were such elements as employment level within the total occupational cluster, employment projections for five to ten year periods as were available from the resource information, and scope of training necessary for occupational entry. All sources tended

to indicate high levels of demand in the areas of business occupations and health careers. Educational levels needed for entry into business occupations ranged from high school graduation through post-collegiate graduate study.

On the other hand, nearly all health occupations required post-high school training or extensive professional school training for job entry. Since these two occupational clusters apparently were closely tied for the selection process, further investigation was necessary in order to select a single cluster.

The research team examined the availability of competency and task inventories and identified a number of studies done in health occupations but few in business and office occupations. Thus, it appeared that to generate competencies for business occupations would become an activity outside the scope of the study, and the health occupations cluster was selected as the target cluster for the balance of the research project.

Twenty-one health occupations programs for which job entry was possible upon completion of less than a baccalaureate degree program of study were initially identified. They included Accredited Records Technician, Dental Assistant, Dental Hygienist, Dental Lab Technician, Dietetic Technician, Licensed Practical Nurse, Medical Assistant, Medical Lab Assistant, Medical Lab Technician, Sanitarian Technician, Nuclear Medical Technician, Nurse aide/orderly, Occupational Therapy Assistant, Operating Room Technician, Orthopaedic Physicians Assistant, Pharmacy Technician, Radiological Technician, Registerd Nurse, Respiratory Therapist, Health Care Administrators, and Physical Therapy Aide.

Health care administration was initially dropped from further investigation since employees in this job classification were primarily involved in administration and management of facilities and less so in delivery of health services to individuals. Pharmacy Technician was eliminated when no practitioners could be located for follow-through investigation, as were sanitarian technician and physical therapy assistant occupations.

Extensive literature reviews were conducted to identify past research efforts which had identified competencies needed by employees in health occupations. Comprehensive lists of competencies for each of the selected occupations were identified from the literature review, the health occupations instruction staff at the Des Moines Area Community College, and Kirkwood Community College, (Cedar Rapids, Iowa), and state and national associations of health professionals. The competency lists were disseminated to selected reviewers (practioners) to verify, add, and delete competencies to insure that comprehensive occupational competency lists would be available. The competency lists, when validated by the practitioners, were then consolidated into a single "laundry list" of competencies representing skills and understandings necessary by all health occupations included in the study. The list of competency items may be found in the Appendix.

Survey lists were procured from professional associations and registries, state boards, and membership rosters available from members of professional groups. Where possible, locator information for

250 members of each occupation in Iowa were obtained from available listings. When too few were available from Iowa listings alone, the HEW Region VII area was included in the search. In those cases where more than 250 names were provided from the membership service, selective and proportionate sampling was used to result in comparable sized groups. Questionnaires were distributed in two mailings on a twenty-day interval to all target members. Results were then tabulated and processed for analysis.

CHAPTER III RESULTS

The 720 item survey was administered to 4,075 health professions persons in the Iowa and upper midwest area. Table 1 presents the distribution of surveys by occupational title and return rates.

Table 1. Distribution of surveys and response rates

OCCUPATION	NO. IN SAMPLE	USEABLE		NOT DELIVERABLE	
		N	%	N	%
A.R.T.	250	67	26.80	2	0.80
A/O	250	15	6.00	49	19.60
D.A.	269	45	16.73	9	3.35
D.H.	250	68	27.20	9	3.60
D.L.T.	248	32	12.90	3	1.21
Diet T.	250	70	28.00	2	0.80
LPN	215	35	16.28	4	1.86
M.A.	250	40	16.00	13	5.20
M.L.A.	244	29	11.89	46	18.85
M.L.T.	242	45	18.60	14	5.79
N.M.T.	250	24	9.60	61	24.40
Occ. T.	250	35	14.00	6	2.40
O.R.T.	250	37	14.80	6	2.40
O.P.A.	69	17	24.64	13	18.84
Rad. T.	250	27	10.80	32	12.80
RN	288	48	16.67	7	14.58
Resp. T.	250	28	11.20	22	8.80
	4,075	662	16.25	298	7.31

Of the 4,075 surveys distributed, 662 or 16.25 percent were returned as useable. Slightly over seven percent (7.31%) were returned as non-deliverable by the Postal Service. Poorest returns were received from Nurse Aide/Orderly employees (6.0%), Nuclear Medicine Technicians (9.6%), and Radiological Technicians (10.8%). Highest returns were received from Accredited Record Technicians (26.8%), Dental Hygienists (27.2%), and Dietary Technicians (28.0%).

The return rate of 16.25 percent, while low by many standards, was considered acceptable for this project. This acceptance was based on an expectation that many individuals would refuse to complete a lengthy survey instrument. All but a few of the instruments returned were totally useable.

Several items of demographic-type data were collected from respondents. These data summaries appear in Tables 2 and 3.

Table 2. Mean Years in the field and mean years in current position reported by respondents

OCCUPATION	Mean Years in the Field	Mean Years in Current Position
Accredited Records Technician	10.56	6.52
Aide/Orderly	5.79	5.35
Dental Assistant	5.12	2.62
Dental Hygienist	6.45	4.04
Dental Lab Technician	22.53	16.71
Dietetic Technician	10.58	4.91
Licensed Practical Nurse	9.14	5.04
Medical Assistant	11.81	8.34
Medical Lab Assistant	11.54	8.00
Medical Lab Technician	7.51	3.94
Nuclear Medical Technician	9.75	6.39
Occupational Therapist	3.74	2.32
Operating Room Technician	8.55	6.04
Orthopaedic Physician's Assistant	3.76	2.64
Radiological Technician	13.92	7.68
Registered Nurse	10.39	5.00
Respiratory Therapist	10.58	7.62

Table 3. Months of training required for occupational preparation

OCCUPATION	MEAN	MEAN
Accredited Records Technician	24.42	24
Aide/Orderly	2.75	1
Dental Assistant	10.50(1)	12
Dental Hygienist	27.86	36(2)
Dental Lab Technician	21.03	24
Dietetic Technician	43.26	45(3)
Licensed Practical Nurse	13.28	12
Medical Assistant	17.26	12
Medical Lab Assistant	14.37	12
Medical Lab Technician	21.68	24
Nuclear Medical Technician	24.55	24
Occupational Therapist	18.03	12
Operating Room Technician	12.34	12
Orthopaedic Physician's Assistant	22.88	24
Radiological Technician	22.11	24
Registered Nurse	36.30	36(4)
Respiratory Therapist	30.72	24

(1) Over 20% reported on-the-job training of less than 12 months.

(2) A number of dental hygiene respondents had completed baccalaureate programs, thereby influencing this data.

(3) Majority of dietary technicians were holders of masters degrees.

(4) Majority of RN's were graduates of hospital school programs.

The data in Table 2 reflect both the mean years of employment in the occupational field and the mean years of service in the current position. Dental Laboratory Technicians who responded frequently were in positions of ownership and/or management, thus influencing their comparatively high level of service in the field and current position.

An interesting characteristic emerged from the data in Table 3. Community college and vocational-technical institute educational programs in health occupations are relatively new. Prior to introduction of these occupational preparation programs, which are typically of 12, 18 or 24 months in duration, other alternatives were employed to train health care personnel. Included were (and still are to some extent) on-the-job training, baccalaureate level options, and hospital-based programs. Nurse aide/orderly, dental hygienist, medical assistant, occupational therapist, and respiratory therapist respondents all exceeded the modal training durations identified for typical community college/vo-tech institute programs. Many health occupation personnel, particularly those in the aforementioned fields, plus dietary technicians, entered their occupations through non-community college avenues.

Thus, the role of two-year institutions is not easily identifiable for selected occupations in this cluster. An unsupported conclusion that may be drawn, also, is that either the newness of some emerging training programs did not allow for substantive numbers of employees to be available for survey in the labor force, or that fairly "young" or "new" health employees do not belong to the associations from which sampling information was drawn.

Not withstanding, the data was considered to be valid for further analysis.

An extensive variety of job titles and experience in other health occupations was reported by respondents. These factors were considered to have lent strength to the study in that the diversity of positions which the respondents were filling supported the generalization of training available to them for placement. Table 4 reflects the variety of current job titles and other health positions which are and have been held by respondents.

Table 4. Current Job Titles and other Health Occupation Positions held by Respondents

OCCUPATION	CURRENT TITLES	OTHER POSITIONS HELD
A.R.T.	A.R.T., Medical Audit Tech, Medical Records Manager, Medical Records Instructor, Records Abstractor	Medical Secretary, Nurse Aide, Inhalation Therapist, X-ray Tech, EKG Tech, EMT, Ward Clerk, Medical Transcriptionist
Aide/Orderly	Aide/Orderly, Nursing Asst.	None
Dental Assistant	Dental Assistant, Dental Therapist, Office Manager	Nurse Aide, Medical Assistant, X-ray Tech, Nurse
Dental Hygiene	Dental Hygienist, DH Instructor, Dental Technician Instructor	Nurse Aide, Phlebotomist, Lab Assistant, Dental Assistant, Dental Sec. Medical Secretary
Dental Lab Tech	Dental Lab Technician, Denture Department Head, General Manager, Company President	Emergency Room Technician Medical Technician, Dental Clinic Manager, Dental Hygienist
Dietary Tech	Dietary Technician, Chief of Food Service, Dietary Consultant, Therapeutic Dietitian, Clinical Dietitian, Food Service Manager	Nurse Aide, Nursing Assistant, School Food Service Worker
LPN	LPN	Dental Receptionist, Dental Assistant, Physicians Assistant, Office Assistant, Lab Assistant
Medical Assistant	Office Nurse, Office Manager Business Manager, Medical Secretary, Insurance Service Manager, Medical Assistant Instructor	Medical Technician, Medical Secretary, Registered Nurse, LPN, Nurse Aide, Laboratory Technician
Medical Lab Assistant	Medical Lab Tech, Certified Lab Tech, Hemotology Supervisor	X-Ray Tech, Operating Room Tech, Nurse Assistant, Pharmaceutical Assistant, Medical Assistant, Nuclear Medical Assistant

Table 4-Continued

Medical Laboratory Technician	Med. Lab Tech, Chief Medical Technologist, Cardiothoracic Technician, MLT Instructor	Nurse Aide, Nurse Assistant, Phlebotomist, Medical Assistant, Dental Assistant, X-Ray Tech, LPN, Nursing Tech
Nuclear Medicine Technician	Nuclear Medicine Technician, Ultra-sound Technician	X-Ray Technician, Lab Tech, Medical Tech, Orderly
Occupational Therapist	Occupational Therapist, Activities Coordinator, Recreational Assistant, Work Activities Coordinator	EMT, EKG Tech, Nurse Assistant, Recreational Assistant
Orthopaedic Physician Asst.	Orthopaedic Physicians Asst.	Orderly, Medic, X-Ray Tech, Emergency Room Tech, Respiratory Therapist, Nurse Aide, Physical Therapy Assistant
Radiological Technician	Radiation Technician, X-Ray Technician, Special Procedures Technician	LPN, Cardiac Technician
Registered Nurse	Registered Nurse, Nursing Administrator, Nursing Supervisor	Nursing Instructor, Med. Lab Tech, X-Ray Tech, Physicians Assistant, Aide, Emergency Room Technician
Respiratory Therapist	Respiratory Therapist, Inhalation Therapist, RT Instructor	Nursing Assistant, Pharmacy Aide

The most significant finding of the research was with the cross tabulation of the competencies. Table 5 represents the cross tabulation matrix. In explanation of the symbols used, an "X" represents a competency (either a skill or an understanding) that was practiced or implemented by more than fifteen (15) percent of the respondents; an asterick (*) represents a competency practiced or implemented by less than fifteen (15) percent of the respondents; and a blank space indicates that the competency was not practiced by any of the respondents for the occupation. The statement of each competency by item number appears in the Appendix.

During final analysis of the competencies, duplicate entries for two items were identified. This occurred even after having had involvement of five project members in quality control review activities. Thus, item numbers 400 and 661 appear blank in the matrix.

Of the 718 final, unduplicated entries, all occupations studied were found to have 25 competencies in common. They included activities related to administrative, public relations, safety, and housekeeping responsibilities.

Extensive sets of clusters of competencies existed within the total matrix for smaller sets of occupations. Occupations requiring record keeping and correspondence activities, those where direct service delivery required patient relationship competencies, and use of special equipment were but several examples. An exhaustive discussion of these relationships would serve little purpose in the presentation of the findings. The evidence is presented for the specific uses and needs of the health professional using the findings.

While the data in Table 5 represents the cross tab matrix of all occupations, more useable data, on an occupation-by-occupation basis appears in the supplementary volumes. Each supplementary volume contains a description of four competency characteristics for each occupation.

The characteristics data summarize the practice rate (the percentage of respondents who practice the competency), the type of competency (whether it is a skill that must be exercised or a mental comprehension only), the frequency with which the competency is normally practiced (daily, weekly, or monthly if that often), and the nature of training practitioners deemed necessary to become proficient (formal in-class training, demonstration only, or on-the-job exposure).

Table 5. Competency Matrix

Item Number	Occupational Field															
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T	O.R.T.	O.P.A.	RAD. T	R.N.	RESP T
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X	*	X	X	X	X	X	X	X	X	X
5	X	X	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X
6	X	X	X	X	X	X	X	X	*	X	X	X	X	*	X	X	X
7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	X		*	X	*	X	X	X		*	X	X	*		X	X	X
9	X		*	X	X	X	X	X	X	X		X	X			X	*
10	X		X	X	X	X	X	X	X	X	X	X	*		X	X	X
11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	X	*	*		X	X	X	X	*	X	X	X	*		X	X	X
13	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
14	X	*	X	X	X	X	X	X	X	*	X	X	*	X	X	X	X
15	X		X		X	X	X	X	X	X	X		X		*	*	*
16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	X		*		X	X	X	X	X	X	X	X	*	*	*	X	X
18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
21	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X
22	X		X	*	X	X	X	X	*	X	X			*	X	X	X
23	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24	X	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
26	X			X	*	X	X	X	X	*	X	X				X	X
27	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
28	X	*	X	X		X	X	X	X	X	X	X	X	X	X	X	X
29	X		X	X	X	X	X	X	X	X	X	X	X	*	*	X	*
30	X	*	X	X	*	X	X	X	X		X	*	X	X	X	X	X
31	X		X	X	X	X	X	X	X			X				*	
32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
33	*	*	*	*	X	X	X	X	*	X		X	X	X		X	*
34	*	X	X	X	*	*	X	*	X	*	X	X			X	X	X
35	X	*	*	X	X	X	X	X		X		X		*		*	*
36	X	*	X	X	*	X	X	*	X	X	X	X	*	*	X	X	X
37		X	X			X	X	X				X				X	*
38	*	X	X				X				X		*			X	*
39		X	X	X			X	X				X	X	X		X	X
40		X					X	*	X	X	X	X	X	X	X	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
41		X	*	X			X	X	X	X	X	X	*	X		X	X
42		X	X				X	X	X	X	X	X	X	X	X	X	X
43		X				X	X					X				X	
44		X					X	*	*	*	X	X	X		X	X	
45		*				X	X	X					*			X	
46	*	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
47	X	*	*	X			X	X	X		X	X	X		*	X	*
48			X	X		X	X	X				X		X		X	X
49							X							X		X	
50		X	*				X	*				X		X		X	X
51	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
52	*	X	X	X			X					X		*	*	X	*
53	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X
54		X	X	X			X	X	X	X	X	*	X	X	X	X	X
55	X		X	X			X	X	X					X		X	*
56		*	X	X			X	X					X	X	*	X	X
57	*		X	X			X	X	X		*			X		*	*
58		*	X	X			X	*				X			*	X	*
59		X					X	X				*	*			X	X
60		X	X	X		*	X	X			X	X		X	X	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
61	*	X	X	X		*	X	X	X	*	X	X		X	*	X	X
62	*	X	X	X		X	X	X			X	X		X	X	X	X
63	*	X	X	X	*	X	X	X	X	X	X	X	X	X	X	X	X
64		X	X	X		X	X	X	X	*	X	X	X	X	X	X	X
65		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
66			X	X		X	X				X	X				X	X
67		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
68		X				*	X	*		*		*	X			X	
69	*	X	X	X		X	X	X	X	X	X	*	*	X	*	X	X
70										*	X				*		
71	*	X	X	*			X	X	X			*	X	X		X	X
72	*	*	X	*		X	X	*	X	X	X		X	*	X	X	X
73	*		X	X	*		X	X	X								
74	*		X	X			*	X	*		X			X	X	*	X
75	X		X	X	*		X	X	X		X	*		X		*	*
76	*		X					X								*	
77	*		X	X			X	X	X		X	X		X	X	X	X
78	X		X	X			*	X	X	*	*	*			X	*	X
79	X	*	X	X		*	X	X	X	X	X	X	X	X	X	X	X
80	X	*	X	X		X	X	X	X	*	X	X			X	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
81	*	*				X	X									X	
82	X	*	X	X	*		X	X	*	X	X	X			X	X	X
83			X	X	X												
84	X		*				*	*								*	
85	X		*	*	X	X	*	*	*	*	*	X		*			X
86	X						X	X					X			*	
87	X		X			X	X	X	*	X	X	X		*		X	*
88	X		*				*	X				*	*	*	X	*	
89	X		X	X	X	*	X	X	X	X	X				X		X
90	X		X		*	*		X	*	*	X					*	X
91	X		X		X	X	X	X	X					*		*	*
92	X		*	*	X	X	X	X	X	X	X	X	X	X	X	X	X
93	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
94	X		X				*	X						*		*	
95	X		X	*	*	X	X	X	X	X	X	X			X	X	X
96	*		*				*	*		*	*				*	*	
97	*		X	X				X	X	X	X			*	X		
98	X		X	X			*	X			*				X	*	
99	*		X	X			X	X	*					*		X	*
100		x				x	x									x	

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
101	*	X	*				X	*								X	X
102	X	X	X	X		X	X	X			X	X			*	X	X
103	X	X	*	X		X	X	X	X		*	X			X	X	X
104	X		X			X	*	X		*	X	*			*	*	*
105	*		*	*			X	X	X		*		X	*		*	X
106			*				*	X						X	X	*	
107	X		X	X	X	X	X	X	X			X		X	X	*	*
108	X		X	*			X	X				X		*	X	*	*
109	*						*	X						*			
110	X		X					X		*				*		*	
111	X		X	X	X	X	*	X	X	X	X	X	X	X	X	X	X
112	X		X	*		*	*	X		*	*	*			X	*	*
113	*		X	X	X		*	X	X		X	X		*	X		X
114	*						*	X	X	X	*					*	
115	X	*	X	*		X	X	X	X	X	X	X	X	*	X	X	X
116	*		X	*				*	*	*	*			*	X	*	
117			*						*	*					X		
118	*	*	X	X	*	*	X	X	*	X	X	X	X	X	X	X	X
119	X	*					X	X	X	*					X	X	X
120	X	*	X				X	X	X	*	X	X	*	*	*	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
121		X					X			X		X	X		X	X	X
122		X					X	*	X		X	X	X	*	X	X	X
123		X	X	X			X	X	X	X	X		X	X	X	X	X
124		X					X						X			X	
125		X					X						*	*		X	*
126		X					X	*								*	
127		X					X					X	X	X	X	X	*
128		X					X	*			X	X	X	*	X	X	X
129		X					X					*	X	X		X	X
130		*				X	X									X	
131		X					X			X		X	X	X		X	X
132		*	*			*	X					X				X	X
133		X					X						X	*		X	X
134		X					X									X	
135		X				X	X									X	
136		X				X	X									X	
137		X					X	X					X		X	X	
138		X					X	*					X			X	
139		X					X	X		X			X	*		X	
140		X					X	X				X	X	X		X	

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
141		X					X	X	X	X	*					X	
142										*	X				*		
143									X	X	X						
144			*				X	*		*	X				*	X	*
145		·	X				X	X	X	X	X			X	X	X	X
146								X	*	X	X					*	*
147							*	*	X	X	X					*	*
148	X		X	X			*	X	X	X	X	*		X	X	X	X
149			X	X													
150										*	X				*		
151	X	*	X	X	X	X	X	X	X	X	X	X	X	*		X	X
152										*	X				*		
153	*	X					X	X	X	X	X		X	X		X	X
154			X	X						*	X				X		
155		X	X	X	*	X	X	X	X	X	X	X	X	X	*	X	X
156		X				X	X									X	
157									*	*	X						
158								*	X	X						*	
159											*	X					
160		*	*	X			X	*	*	X	*	*		X	*	X	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
161									X	X	X						
162											X				*		
163	*	X	X	X	*	*	X	X	X	X	X	X	X	X	X	X	X
164			*						*		X				X	*	
165		X					X			X		X	X	X		X	X
166			X	*			*	X					X	X		X	
167		X					X	X		X			X	X		X	
168		*					X					*	X	X		X	
169		*					X					X	X	X		X	
170		*					X					*		X		X	
171							X	*					X	X	X	X	
172		X					X					*		X		X	
173							X	X		X			X	X		X	
174							X							X		X	
175		X					X			X			X	X	X	X	
176							X						X	X		X	
177							*						X	X		X	
178								X					X	X		X	
179		X					X					X		X		X	
180			X	X				X	X	*	X		*	X	X		

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
181			X	X			*			X	X		X	X	X		
182							X		*		X		*		*	X	
183			X	X									X				
184			X	X				X	X	*	X		*	*	X		
185			X	X													
186			X	X													
187			X	X													
188			X	X													
189			X	X													
190			X	X													
191			X	X													
192			X	X													
193			X	X	*												
194			X	*													
195			X	X	*								X				
196			X	X													
197			X	X	*												
198			X	X													
199			X	X													
200			X	X			*	X					X	X		*	

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
201			X	X													
202			X	*													
203			X	X													
204			X	*				X	*	X			X			*	
205			X	X	X												
206			X	X	X									X			
207			X	X	X												
208			X	X	X												
209			X		X												
210			X		X												
211			X		X												
212			X		X												
213			X		X												
214			X		X												
215			X	X	X												
216			X		X												
217			X	X	X								X				
218			X	X	X												
219	X															X	
220			X	X	X												

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
221	X		*	*		X	*	X	*	X	X	X				X	X
222	X		X	X		X	X	*								*	
223	X		*		*	X	*	X	*	*	X					*	
224	X		*					*			*	*					
225	X		X	X		X	X	X	*	X	*		X	*		X	*
226	X		*														
227	X		*				*	*		*		*					
228	X																*
229	X		*					X					*			*	
230	X		*			*		*				*				X	*
231	X						*	*						*			
232	X				*		*	X			*	*	*		*	*	*
233	X		*					X	X	X					X		
234	X		X			*		X	*		*				X	*	
235	X		X		*			X	X	X	*		*		X	*	
236	X		X	X	X	X	*	*	X	X	X						X
237	X		*	X	X	X		X	X	X		X	X	*		X	X
238	X																
239	X							*									
240	X		*		X												

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
241					X												
242			*		X												
243			X		X												
244			X		X												
245				*	X												
246			*		X												
247			X	X	X												
248			X	*	X												
249			X	*	X												
250			X	X													
251					X												
252					X												
253					X												
254					X												
255					X												
256			*		X												
257			X	X	X								X				
258					X												
259					X												
260					X												

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
261			*		X												
262					X												
263					X												
264			X		X												
265			*		X												
266					X												
267			X	X	X												
268			*		X												
269					X												
270			X		X												
271			*		X												
272					X												
273			X		X												
274					X												
275					X												
276					X												
277			*		X												
278					X												
279	*		X	X		*	*	*	*			X		X		*	*
280					X												

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
281					X												
282			X		X												
283					X												
284			X	X	X												
285				*	X												
286					X												
287					X												
288					X												
289					X												
290					X												
291					X												
292					X												
293					X												
294					X												
295					X												
296					X												
297			X	X	X												
298					X												
299			X		X												
300					X												

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
301					X												
302					X												
303					X												
304			*	X	X												
305					X												
306					X												
307					X												
308				*	X												
309					X												
310					X												
311					X												
312					X												
313			*		X												
314			X		X												
315				*	X												
316			X		X												
317					X												
318			*		X												
319					X												
320			X		X												

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
321					X												
322			X		X												
323					X												
324					X												
325					X												
326					X												
327					X												
328					X												
329				*	X												
330					X												
331					X												
332					X												
333					X												
334					X												
335					X												
336					X												
337					X												
338					X												
339				*	X												
340					X												

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
341			X	*	X												
342					X												
343					X		*										
344					X												
345					X												
346					X												
347					X												
348					X												
349					X												
350			X	X	*												
351			X	X	X												
352			X	X	X												
353			X	X													
354			X	X													
355			X	X													
356			X	X	X												
357			X	X	*												
358			X	X	X												
359			X	X													
360			X	X													

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
361			X	X	X												
362			X	X													
363			X	X													
364				X													
365			X	X													
366			X	X			*	*								*	
367				X													
368				X	*												
369				X													
370			X	X													
371			X	X									*				
372			X	*	X												
373			*	X	X												
374					X												
375			X	X													
376			X	X	*												
377			X	X			*										
378			X	X	*												
379			X	X		X	*										
380						X	X										*

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
381						X											
382		*				X										X	
383						X											
384		X				X	*									X	
385		X				X	X									X	
386						X	X									*	
387		X				X	X									*	
388						X											
389						X											
390						X										*	
391						X											
392						X											
393						X											
394						X											
395						X											
396						X											
397						X											
398						X											
399						X											

400 - Duplicate Entry
Not used

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
401						X											
402						X											
403						X											
404		*	X	*	*	*	X	*	*	*	X		X		X	*	*
405		X					X						X			X	
406		*					X					*	*			X	
407							X	*					*			X	*
408							X				X		X			X	
409		X					X	*					X			X	
410							X						X			X	
411		X					X	*		X			X	X	X	X	*
412		X					X						X			X	*
413							X	X					X	X		X	
414		X					X	*	X				X	X		X	
415		X	*				X	X					*	*	X	X	X
416		X					X						*			X	
417		X					X	X					X			X	
418		*					X	X			*		*			X	*
419							X	X	X	X			X	X		X	*
420		X					X						X	*		X	*

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.	
421			X				X	X	X	X				X	X	X		
422	*	*																
423	*							X										
424							*	X	X	X						*		
425		X					X	X	X	X						X	*	
426								X	X	X						*		
427							*	X	X	X						X		
428								X	X	X	*					*	X	
429							X	X	X	X	X					X	*	
430								X	X	X	*					*		
431								X	X	X	X							
432								X	X	X						*		
433							*	X	X	X							*	
434								X	X	X						*		
435								X	X	X	X							
436								X	X	X	X					*		
437								X	X	X								
438								X	X	X								
439								X	X	X								
440								X	X	X								

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
441		*					X	X	X	X			X			X	
442							*	X	X	X			X			*	
443			*					X	X	X	*		X				*
444		*	X	*			X	X	X	X	*		X			X	*
445							X	X	X	X			*			X	*
446								*	X	X			*			X	X
447							*	X	X	X			*			*	X
448								X	X	X			*			X	
449			X	*			X	X	X	X			X			X	
450							X	X		*	X					X	
451							*	X		X						*	X
452		*	X				X	X	X		X	*	X	*	X	X	*
453							*	X	X	X						*	
454							X	X								*	
455							*	X		*			*			*	
456							*	X					X			*	
457							X	X	X	X			X	X		X	
458								X	X	X							
459								X	X	X							
460								*	X	X							

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
461								X	X	X							
462									X	X							
463								X	X	X							
464									X	X							
465								X	X	X							
466									X	X							
467									X	X							
468									X	X							
469									X	X							
470									X	X							
471									X	X							
472									X	X							
473									X	X							
474									X	X							
475								X	X	X							
476									X	X							
477								X	X	X							
478								X	X	X							
479									X	X							
480								X	X	X							

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
481								X	X	X							
482								X	X	X							
483								*	X	X							
484								X	X	X							
485								X	X	X							
486								*	X	X							
487									X	X							
488									X	X							
489									X	X							
490								X	X	X	X						
491								X	X	X							
492								*	X	X							
493									X	X							
494									X	X							
495								X	X	X							
496								*	X	X							
497								*	X	X							
498								X	X	X							
499								*	X	X							
500									X	X							

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
501								X	X	X							
502									X	X							
503								*	X	X							
504								*	X	X							
505								X	X	X							
506								*	X	X							
507								X	X	X							
508								X	X	X						X	*
509									X	X							
510								X	X	X						*	
511								*	X	X							
512							*	X	X	X						X	
513								X	X	X							
514									X	X							
515									X	X							
516									X	X							
517									X	X							
518								*	X	X							
519									X	X							
520								*	X	X							

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
521									X	X							
522									X	X							
523									X	X							
524									X	X							*
525									X	X							
526									X	X							
527								X	X	X							
528									X	X							
529								*	X	X							
530									X	X							
531									X	X							
532									X	X							
533							*	X	X	X							
534								X	X	X							
535									X	X							
536									X	X							
537									X	X							
538									X	X							
539									X	X							
540									X	X							*

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
541									X	X							
542									X	X							
543									X	X							
544									X	X							
545									X	X							
546									X	X							
547									X	X							
548									*	X							
549								X	X	X							
550								*	*	X							
551								X	X	X	X						
552									X	X							
553								*	X	X							
554									X	X							
555								*	X	X							
556									X	X							
557									X	X							
558								*	X	X							
559								*	X	X							
560									X	X							

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
561								*	X	X							
562									*	X							
563								*	X	X							
564									X	X							
565									X	X							
566								*	X	X							
567								*	X	X							
568									X	X							
569				*			X					X		*			*
570												X					X
571				X			X					X				X	
572						*						X					X
573												X		*		X	
574							X					X					
575												X		*		X	
576												X					
577												X				X	
578												X					
579							X					X				X	
580							X					X					

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
581		X					X					X		X		*	X
582		X					X					X		X		X	
583				*	*		X					X		X			*
584		X					*					X					
585				*			X					X		*			*
586	*		X	X		X	X	X	*	*	X	X	*	X	X	X	X
587			X	X				*	*	X	X				X		
588								*	*	*	X				X		
589										X	X		*		X		
590							*				X		*		X		
591				X	X		*	X	X	X	*		*	*	X		
592							*	*	X	*	X		*		X		
593										X	*		*	*	X		
594									*		X				X		
595										*	*		X		X		*
596									X		X		*		X		
597										*	X		*		X		
598							*		X		X		*		X		
599										X	X		X		X		
600									X		X		*		X		

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
601										X	X		X		X		
602											X				X		
603										*					X		
604							*									X	X
605							*									X	X
606							*									X	X
607							X									X	X
608		X	X				X	*			X		X		X	X	X
609							X									X	X
610		X	X	*			X	X		*	X	X	X	*	*	X	X
611							X									X	X
612																X	X
613			*														X
614							*									X	X
615													X				X
616																X	X
617																	X
618																	X
619															X	X	*
620																*	X

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
621							X	X			*		X	*	X	X	X
622			X	*		*	X	*		*	X	X	X	X	X	X	X
623		X	*	X		*	X	X	X		X	X	X	*	X	X	X
624		X	X	*	*	*	X	*	X	X	X	X	X	*	X	X	X
625	*	X	X	X	*	*	X	X	X	X	X	X	X	X	X	X	X
626		X					X									X	
627		X					X	X	X	X	*		X	X	X	X	X
628		X					X	X	X		*		X	X	*	X	
629		*					X	X			*		X			X	X
630			*				X	X			*		X	*		X	X
631							X			X	*		X			X	X
632							*						*			*	*
633		X					X	X				X	X	X		X	X
634	X	X	X	*		X	X		X	X	X	X	X		X	X	X
635	*	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
636							*									X	X
637		X		X			X					X		X		X	X
638		*				*	X	X				X				X	*
639		X	*	X			X	*				X		X		X	X
640		*					X					X				X	

Item Number	Occupational Field																	
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
641		*		X		*	X	X		X		X		X		X	*
642												X					
643							*									X	X
644		X				X	X						*			X	X
645		X	*	*			X	X		X	*	X	X	X	X	X	X
646		X					X	*		X	X		X		X	X	X
647		X					X	X	X	X	X		X			X	X
648		*					X	*	X	X			*			X	X
649		*	X	X			X	X						X		X	X
650		*					X					X		*		X	X
651		X	X	X		X	X	X	*	X	X	X	X	X		X	X
652		X	X	X			X					X				X	X
653			X	X		X	X	X				X		X		X	X
654			X	X													
655			X	X	*												
656			X	X			X	X					X	X		X	
657			X					*		*			X			X	
658			X		*												
659			X	X	*												
660			X	X													

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
661 - Duplicate entry Not used																	
662			X	*													
663			X	X			X					X				*	*
664			X	X		X	X									X	
665		*					X	X					*			X	
666			X	*													
667		X		*			X			X			X			X	X
668							X	X		*	X				*	*	
669		*		X			X	X			X		*	X	*	X	X
670	X		X	X		X	X	X	*	X	X	X	*	*	X	X	X
671		X	X	X			X	X	X	*	X		X	X	X	X	X
672		*	X				X	X		*	X	X	X	X	X	X	*
673		*					X						X	X		X	
674		X					X	*						X		X	
675		X					X	X				X		X		X	X
676							X					*				*	
677			X	X			*						X				
678			X	X									X				
679			X	X			X	X					X	X		X	*
680			X	X													

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
681			X	X													
682			X	X													
683			X	X													
684			X	X													
685			X	X			X	X				*	X	X	X	X	X
686			X	X													
687			X										X	X			
688		X	X	X			X	X			X		X		*	X	*
689		X	X	X	*		X	X	X	X	X		X	X	X	X	X
690		X	*				X	*			X	*	X	*	X	X	
691		X	X	X			X	X					X		X	X	
692	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
693	*	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
694										*	X				X		
695	*	*	*	X	X	*		X	X	X	X		X	X	X	*	*
696	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
697	*		X	X	X	*		X	X	X	X	X	X	X	X	*	X
698										*	X		*		X		
699									X	X	X		*		*		
700										*	X				X		*

Item Number	Occupational Field																
	A.R.T.	A/O	D.A.	D.H.	D.L.T.	DIET T.	L.P.N.	M.A.	M.L.A.	M.L.T.	N.M.T.	OCC. T.	O.R.T.	O.P.A.	RAD. T.	R.N.	RESP T.
701		*					X				X		X	X		*	
702		*	X	X	X		*	X	X	X	X	X	X	X	X	X	X
703								*		*	*			*			*
704		*	X	X					*	*	X			*	X		
705		*	X	X			X	X	*	*			X	X	*	X	X
706		X	X	X			X	X	X	X	X		X	X	X	X	X
707		X	X	X			X	X	X	X	X		X	X		X	X
708	*	X	X	X	*	X	X	X	X	X	X	X	X	X	X	X	*
709		*	X	X	X				X	X			X				
710						X											
711			*		*	X		*	X	X	X		X	*	*		X
712							*	X	X	X	X		*				*
713	*		X	X	X	X	X	X	X	X	X	X	X	X	*	*	X
714	*	*	X	X	*	*	X	X	X	X	X	X	X	X	X	X	X
715			X	*	*	X		X					X	X	X		X
716			X	*							X				X		
717			X	X				*			X		X	*	X		
718			X	*			*				*				*	*	*
719	*	*	X	*			X	X	X	X	X	*	X	X	X	X	X
720					X												

CHAPTER IV CONCLUSIONS

The conclusions drawn as a result of the study are nearly as varied as the content of the findings. Initially, it must be noted that the broad, diverse representation of specific jobs encompassed by respondents dictates that the data be considered in a generalized fashion. To clarify this point, an example may be introduced utilizing the dental laboratory technician occupation. Respondents reported a range of from several years to over 40 years experience in the field, with job responsibility ranging from a basic "in-the-lab" responsibility to president of a dental lab company.

It is obvious that a vast differential exists in the competencies needed for dental lab technicians who represent such diverse occupational roles. The same case may be stated for newly graduated nurses, dental assistants, or others when contrasted with respondents who were in major management or administrative positions.

It was also apparent that those respondents who represented "small" employer work settings had vastly different roles from those representing large major health care delivery systems. While this variable was not a part of the research, visual inspection of the responses on the questionnaire brought this element into focus.

Thus, it appears that the role of a health occupations employee partially becomes a function of the size and type of facility in which they work.

Another related conclusion that may be drawn is that the role of a health occupations employee is also a function of the nature of training which they have experienced. Again, visual inspection of the data reflected that those trained "on-the-job" reported fewer competencies practiced than

those who had completed formal training for that role.

Thirdly, the project staff determined that comprehensive, complete competency definitions were and still are not available in the same precision for all occupations. Some, such as the dental auxiliaries and medical laboratory fields are quite definitive and well described while others are broad, vague, and more loosely defined.

Some degree of caution must be exercised in accepting fully the competencies reported by respondents because of the element of "grandfathering." This process has, for some professions with emerging registry activities, resulted in inclusion of employees with supernumary occupational competencies developed as a result of altervative training, or crossover employment from an established occupation into an emerging field.

Another problem area encountered hinged around the issue of overlapping job descriptions and the competencies needed for successful job performance. Examples of this included the roles of practical nurse versus registered nurse, of medical laboratory assistant versus medical laboratory technologists, and of operating room technicians versus nurses who function as ORTs. Thus, job descriptions representing broad, general applications of competencies may attract and be filled with a variety of "qualified" personnel representing two or more fields of training. Thus, competency characteristics reported by respondents fluctuated as a result of this variable.

While all of these variables affected the findings to some extent, it has been concluded that for general planning and curriculum design purposes, the study will be of value to educators and health care delivery systems personnel alike.

CHAPTER V RECOMMENDATIONS

A number of options exist for the use of the findings of this research. Those engaged in planning new curricula, in developing evaluative measures for program assessment, or those involved in stream-lining instructional delivery systems can benefit.

Additional uses may be exercised by occupational representatives concerned with identification of skills and understandings needed for registry purposes, while health care delivery organizations and employers may find application in position analysis and the development of job descriptions for employment purposes.

Curriculum Planning

New curriculum design has often involved a legalized exercise in plagiarism. That is, successful existing programs in given sites have been duplicated in the establishment of new ones, with local modification. Use of the findings of the study, particularly the supplemental volumes, could assist program designers in their task.

The supplemental data reflects all competencies for the occupation reported by respondents, the level or rate of practicing the competency, the distribution of the type of competency (whether physical skill or mental understanding), the frequency with which the competency is practiced, and respondents' opinions as to the type of training needed to become proficient in the competency. Each of these variables has impact in design of the curriculum and instructional delivery system.

Program Assessment

Evaluation and program assessment can be facilitated through the products of this research. Possible uses might include validation of existing curriculum content, review of physical abilities and skills versus need for conceptual understanding only, or analysis of training program emphasis on "highly" as opposed to "lightly" practiced competencies.

Modifying Instructional Delivery

One of the more viable uses of the data might include, for educational administrators, the modification of instructional delivery. Examples could include large group instruction in curriculum areas common to several preparatory occupational programs. This would obviously reduce duplicated instructional efforts within individual programs and would lead to increased efficiency in the instructional process.

Other applications in this category of use may result in changed emphasis on how instruction is presented with respect to lecture/recitation, demonstration, and exposure in the clinical setting. That is, some competencies now taught in the classroom might better be learned in clinical practice activities, or vice versa.

Other Applications

External to the educational arena, other uses of the data are possible. Emerging occupations looking toward registry of practitioners in their field may find benefit from the data in defining registry requirements, updating them, or simply as resource information about practitioners in the field and their activities.

Employers may also find use for the outcome information in clarifying job role expectations, in task analysis, or in preparation of position descriptions.

In conclusion, the need for further research in this arena is clear.

First, a repetition of this study is needed, concentrating on the graduates of two-year colleges and vocational/technical institutes. That type of effort would clarify the competency development resulting from formal education programs and would eliminate the impact of on-the-job trained persons and those who entered an occupation as a cross-over from other program preparation. It would be expected that more uniformity in reporting would thus occur.

A related study could be conducted with stratification by size or type of employing organization. Thus, educational institutions who produce graduates for specific employers could determine the emphasis needed to satisfy those employers' needs.

Finally, specific research should be conducted to more completely define the competencies within given occupations. This represented one of the limitations of this project in that research was not conducted to develop competencies, but rather only to identify that which existed at the time of the study.

CHAPTER VI BIBLIOGRAPHY

1. Admissions Office. Admissions Status Report. Ankeny, Iowa: Des Moines Area Community College, 1976 (typewritten).

2. Allied Health Professions Project. Task Inventories. Los Angeles, CA: University of California at Los Angeles, 1971.

3. American Association for Respiratory Therapy. Delineation of the Roles and Functions of Respiratory Therapy Personnel: Final Report. Dallas, Texas: American Association for Respiratory Therapy, 1973.

4. Battelle Memorial Institute. An Exploratory Study to Analyze New Skill Content in Selected Occupations in Michigan and the Translation into Vocational Education Curricula. Section Report on Licensed Practical Nurse. Columbus, Ohio: Battelle Memorial Institute, 1971.

5. Byers, Bruce, and Nowak, Frank. Task Performance for Selected Allied Health Occupations. Pittsburg, Pennsylvania: Educational Projects, Inc., 1972.

6. Cullen, Thomas D., and Henrich, Robert R. A Survey of Practices in Hospital Pharmacies. Los Angeles, CA: Allied Health Professions Project, 1971.

7. Cullen, Thomas D.; Henrich, Robert R.; and Najam, Merchant. Engineering Maintenance Occupational Analysis. Los Angeles, CA: University of California at Los Angeles, Allied Health Professions Project, 1971.

8. Dental Assistant Program. Task Check List. Ankeny, Iowa: Des Moines Area Community College, 1974 (typewritten).

9. Dental Hygiene Program. Competencies in Dental Hygiene. Ankeny, Iowa: Des Moines Area Community College, 1974 (typewritten).

10. Dicicco, Earl O. Medical Office Assistant: Occupational Analysis. Los Angeles, CA: University of California at Los Angeles, 1971.

11. Evans, Rupert N.; Terry, David R.; Tomlinson, Robert M.; Trone, Diana L.; and Girdley, James J. Inventory for Dental Laboratory Technician Program. Urbana, Illinois: University of Illinois, 1976.

12. Fine, S.A. Job Analysis of Physical Therapists to Develop Curriculum Materials for an Aide Training Program. McLean, Virginia: Human Sciences Research, Inc., 1963.

13. Freeland, Thomas E., and Goldsmith, Katherine L. Respiratory Care/Inhalation Therapy Task Analysis Data. Los Angeles, CA: University of California at Los Angeles, 1971.

14. Goldsmith, Katherine L.; Jensen, Mary; Wood, Lucille; and Zimmerman, Don. A Study of Nursing Occupations. Los Angeles, CA: University of California at Los Angeles, 1970.

15. Gosman, Minna L., and Kirshnamurtz, G.B. Hospital Food Service Department: Occupational Analysis. Los Angeles, CA: University of California at Los Angeles, 1971.

16. Gosman, Minna L.; Kirshnamurtz, G.B.; Reeder, Glenn; Goldsmith, Katherine; and Henrich, Robert L. Nursing Unit Administration (Ward Administration): Occupation Analysis. Los Angeles, CA: University of California at Los Angeles, 1971.

17. Iowa Department of Public Instruction. Career Education Needs Information Systems. Des Moines, Iowa: Iowa Department of Public Instruction, 1975.

18. Iowa Employment Security Commission. Annual Planning Report: Des Moines Area FY'1977. Des Moines, Iowa: Iowa Employment Security Commission, 1977.

19. Iowa Employment Security Commission. Annual Report on State and Area Occupational Requirements for Vocational Education-FY'1976. Des Moines, Iowa: Iowa Employment Security Commission, 1976.

20. Iowa Employment Security Commission. Annual Report on State and Area Occupational Requirements for Vocational Education-FY'1977. Des Moines, Iowa: Iowa Employment Security Commission, 1977.

21. Iowa Employment Security Commission. Occupational Outlook: 1975-1980. Des Moines, Iowa: Iowa Employment Security Commission, 1975.

22. Kingston, Richard D., and Freeland, Thomas E. Dental Auxillary Occupations: Task Analysis Data. Los Angeles, CA: University of California at Los Angeles, 1970.

23. Kuritsky, Joel, and Reeder, Glenn. A Report on an Emerging Occupation: The Physician's Assistant. Los Angeles, California: University of California at Los Angeles, 1971.

24. McClurg, Ronald B. The Needs for Integrating Career Education Services Within the Des Moines Area Community College District. Ankeny, Iowa: Des Moines Area Community College, 1975.

25. McFarland, Barry P. Comparison of Task Difficulty Ratings Made by Nurses and Medical Service Corpsmen - an Interim Report. Lackland Air Force Base, Texas: Air Force Human Resources Laboratory, 1974.

26. Medical Laboratory Technician Program. Medical Lab Technician Check List. Ankeny, Iowa: Des Moines Area Community College, 1975 (typewritten).

27. Ohio State University, The Occupational Therapy Job Descriptions in Development of Occupational Therapy Job Descriptions and Curricula Through Task Analysis. Report #1. Columbus, Ohio: The Ohio State University School of Allied Health Professions, 1972.

28. O'Neal, Alan L. Competencies in Concrete Construction Needed by Iowa Farmers. Unpublished Master's Thesis. Iowa State University. Ames, Iowa, 1969.

29. Placement Office. Choice and Challenge - 1973. Ankeny, Iowa: Des Moines Area Community College, 1973 (mimeographed).

30. Placement Office. Choice and Challenge - 1974. Ankeny, Iowa: Des Moines Area Community College, 1974 (mimeographed).

31. Placement Office. Choice and Challenge - 1975. Ankeny, Iowa: Des Moines Area Community College, 1975 (mimeographed).

32. Placement Office. Choice and Challenge - 1976. Ankeny, Iowa: Des Moines Area Community College, 1976 (mimeographed).

33. Reeder, Glenn; Freeland, Thomas; Ott, Ted; and Sapp, Reginald. Hospital Radiologic Technologists: Occupational Analysis. Los Angeles, California: University of California at Los Angeles, 1972.

34. Taub, Howard; Freeland, Thomas; and Goldsmith, Katherine. A Study of Clinical Laboratory Occupations. Los Angeles, California: University of California at Los Angeles, 1971.

35. Technical Education Research Center. Development of Career Opportunities for Technicians in the Nuclear Medicine Field: Phase I. Interim Report #1. Cambridge, Massachusetts: Technical Education Research Center, 1969.

CHAPTER VII GLOSSARY OF DEFINITIONS AND ABBREVIATIONS

A. R. T. .....Accredited Record Technician

A/O.....Nurses' Aide or Orderly

Competency.....A skill or understanding indicating capability or qualification as related to job performance.

D. A.....Dental Assistant

D. H.....Dental Hygienist

D. L. T.....Dental Laboratory Technician

Diet T.....Dietary Technician

E. M. T.....Emergency Medical Technician

LPN.....Licensed Practical Nurse

M.A.....Medical Assistant

MLA.....Medical Laboratory Assistant

MLT.....Medical Laboratory Technician

NMT.....Nuclear Medicine Technician

Occ. T.....Occupational Therapist

ORT.....Operating Room Technician

OPA.....Orthopaedic Physicians Assistant

Rad. T..... Radiological Technician; X-ray Technician

R.N.....Registered Nurse

Resp. T.....Respiratory Therapist; Inhalation Therapist

Skill.....The ability to use one's knowledge effectively and readily in the performance of an activity. Eg: Ability to record blood pressure.

Understanding.....A capacity to comprehend the nature, significance, or explanation of a concept, whether or not the skill to perform that activity has been developed. Eg: Comprehension of <u>how</u> to take blood pressure, but not necessarily able to do so personally.

APPENDIX I LIST OF ITEMS

1. Seek guidance to improve performance in patient care.
2. Participate in/conduct demonstrations of procedures and equipment (in-service).
3. Orient new personnel to unit facilities, routines and other personnel.
4. Advise health professionals on the technicalities and procedures involved in operating special equipment.
5. Practice established routines and policies of the health care facility.
6. Supervise subordinates within the health care facility.
7. Give "on the job" instruction.
8. Advise staff concerning medical jurisprudence.
9. Develop criteria for the selection of records for review and retention.
10. Establish work priorities and schedule work assignments.
11. Identify operational deficiencies and recommend corrections.
12. Evaluate subordinate employee performance.
13. Develop job description.
14. Consult with health professionals on purchasing/constructing/using special appliances.
15. Interview/Evaluate/Hire prospective personnel.
16. Maintain standards of employees' personal hygiene as related to job performance.
17. Insure that all subordinates are on duty.
18. Attend and participate in staff meetings.
19. Develop policies and establish departmental procedures.
20. Inform personnel of new or changed policies and procedures.
21. Provide liaison between doctor and other professional associates.
22. Review and approve employee's payroll time and salary.
23. Coordinate work schedules with other departments.

24. Teach special procedures to department members/students/health care professionals.

25. Teach safety techniques as needed.

26. Develop hospital disaster plan.

27. Inform personnel of potential hazards in their working area.

28. Demonstrate tact in giving and withholding information concerning patient care/operations of the health care facility.

29. Represent the department and facility at community meetings.

30. Attend meetings and participate in community activities related to doctor's practice.

31. Arrange meetings, conferences/travel accommodations.

32. Assist in the orientation of volunteers, students, and new staff.

33. Recommend materials to be used in training volunteers.

34. Train volunteers in specific techniques.

35. Participate in public relation activities as directed.

36. Conduct tours of facilities.

37. Obtain and deliver supplies for patient's entertainment or recreation.

38. Inventory, sign for, and place patient's personal possessions in safe place.

39. Assist patient with personal hygiene and grooming.

40. Assist patient in and out of bed.

41. Assist patient in walking.

42. Transport patient on stretcher/wheelchair.

43. Prepare food so patient may feed self or feed the patient.

44. Assist patient in use of commode, urinal or bedpan.

45. Explain discharge diet instructions to patients on order from physician.

46. Assist in resolving patient complaints.

47. Obtain signature on various patient/family consent forms.

48. Teach patient/family, preventative general health care.

49. Prepare patient to see clergy/receive sacraments.

50. Assist patient in active/passive exercise.

51. Obtain information from patient/family.

52. Orient patient/family to health care facility.

53. Receive patient, explain tests and procedures to them and ally their fears.

54. Attend to patient's comfort before, during, and after examination/ tests/treatment.

55. Aid patient in completing insurance forms.

56. Explain post-operative instructions to patient.

57. Explain fees to patient.

58. Assist patient in planning for health care facility.

59. Administer manual massage.

60. Explain therapy procedures in lay terms.

61. Explain follow-up services to patient.

62. Help patient develop positive attitudes toward their illness/ confinement.

63. Assist in establishing a comfortable relationship between the patient and the health care professional.

64. Observe negative/positive physical and emotional responses to treatments, medications, nursing care, etc.

65. Interpret patient's signs, symptoms, behavior, etc.

66. Identify strengths/weekness of care plan.

67. Observe patient's general physical condition, appearance, and behavior.

68. Observe, measure, and record patient fluid intake/output.

69. Record and chart vital signs, height, weight, and/or other conditions as directed by health care professional.

70. Account for isotope licensing/procurement.

71. Follow established admitting procedures.

72. Maintain a use record on special equipment.

73. Conduct routine financial matters of employer (collect fees, make deposits, send statements, etc.)

74. Maintain appointment control.

75. Complete insurance forms.

76. Maintain state and federal tax information and prepare tax forms.

77. Schedule patient treatment sessions.

78. Maintain record of all requests for patient information.

79. Obtain charts of patients for whom information is requested.

80. Prepare patient record folder (chart).

81. Transfer patient food order to patient records.

82. Sort/file/organize documents. certificates, patient records, etc.

83. Care for preliminary or final dental impressions.

84. Coordinate medical library function.

85. Maintain and prepare productivity reports.

86. Maintain surgeons'/physicians'/disease and operation indexes.

87. Prepare daily census.

88. Obtain physician's record of medical information and signature on certificates.

89. Process mail and correspondence (both incoming and outgoing).

90. Process payroll time cards.

91. Prepare requests for vacation/sick leave.

92. Prepare requisitions.

93. Handle telephone calls.

94. Disseminate insurance information requests to other departments for completion.

95. Prepare correspondence/Report/Summary (Not forms.)

96. Direct Storage/Issue/Safeguarding of Security Items.

97. Mount, label, and file radiographs.

98. Maintain a patient recall system.

99. Record patient's medical/dental history.

100. Communicate menu changes.

101. Record nursing care.

102. Check/maintain charting of treatments and medications, procedures, orders, observations.

103. Maintain personal information card index on each patient.

104. Gather data to complete reports for government agencies.

105. Receive and organize handling of medication samples.

106. Prepare and replenish supplies in physician's kit.

107. Operate office business machines.

108. Initiate and maintain a medical record file for patients.

109. Follow up on house calls and hospital visits for information needed for office medical record folders.

110. Establish and maintain a control system for location of medical record folders.

111. Maintain catalogs of supplies and equipment.

112. Prepare statistical reports in regard to patient visits and procedures.

113. Maintain a fee schdule for services.

114. Record information on blood record card.

115. Follow established procedure in filing incident reports.

116. Process loans of X-ray films.

117. Maintain radiology work record for statistical purposes.

118. Receive and record physician's verbal orders.

119. Transcribe physician's orders.

120. Follow established procedures for processing authorization/accident report forms (autopsy, surgery, diagnostic tests, discharge forms).

121. Apply restraints.

122. Adjust side rails and height of bed.

123. Open sterile packages and packs.

124. Make patient's bed occupied/unoccupied.

125. Use overbed cradles.

126. Give general skin care to patients.

127. Use footboards.

128. Turn and place patient in correct body alignment.

129. Use sheepskins, lambswool pads.

130. Receive patient census and menu tally and prepare diet orders.

131. Use trochanter rolls, sandbags.

132. Teach patient, family, staff the relation of rehabilitation activities to daily living.

133. Use air rings, doughnuts.

134. Alternate pressure mattresses.

135. Prepare and give between-meal nourishment of liquids.

136. Prepare and give solid foods.

137. Irrigate rectum (enema).

138. Empty drainage bottles and bags.

139. Assist with/apply T, straight, scultetus, breast, and triangular (sling) binders.

140. Assist with/apply ace bandages and elastic stockings.

141. Test urine for sugar and acetone.

142. Chemically prepare short-life isotopes (direct methods, and eluting a prepared column).

143. Calibrate isotopes against a standard.

144. Prepare oral dose using measure for manufacturers bottle/by mixing and diluting.

145. Prepare injections using measured/sterilized dose.

146. Set up instruments for operation in vitro/vivo studies.

147. Make simple dose calculations for in vitro/vivo examinations.

148. Accumulate and process data for doctor's interpretation.

149. Apply air to keep cavity preparation dry.

150. Make simple dose calculations for tracer examinations.

151. Evaluate adequacy of work space.

152. Examine scan test results for general credibility.

153. Receive specimen from patient, record pertinent data on container, and place in proper storage.

154. Select proper accessories for radiographic techniques.

155. Improvise or modify equipment for special requirements.

156. Assemble late or hold food trays.

157. Operate a rectilinear scanner for conventional scanning/slow dynamic studies.

158. Organize and store blood.

159. Operate a scintillation camera for slow dynamic/static studies.

160. Perform preliminary interpretations of observations for doctor.

161. Assay wet chemical solutions for activity and contaminants.

162. Operate an autofluorescope for static/fast/slow dynamic studies.

163. Know and apply basic first aid techniques including artificial respiration and cardiac resuscitation.

164. Monitor radiation levels in compliance with hospital regulations.

165. Know the function of and be able to apply this knowledge to the use of special beds and frames.

166. Set up/assist with surgical procedures.

167. Recognize the need to redo a cast.

168. Set up and adjust traction equipment for use by patient.

169. Check limb braces for function, comfort and fit. Adjust them as necessary.

170. Recognize the need for adjustment in traction devices.

171. Set up and assist with the use of various fracture tables.

172. Be knowledgeable of limb braces and be able to apply them.

173. Apply simple casts and splints.

174. Recognize signs of "plaster breakdown" in casts, and repair same.

175. Be familiar with various orthopaedic operative procedures and the equipment these procedures require.

176. Use a cast cutter and other related tools.

177. Serve as a surgical technician for general surgical/orthopaedic cases.

178. Set up the complete surgical "back table" and "Mayo stand."

179. Perform routine measurement of range of motion and muscle testing.

180. Take and process X-rays.

181. Practice patient and operatory safety measures and radiation.

182. Administer intravenous fluids, blood, etc.

183. Deliver and receive instruments at chairside.

184. Adjust voltage, amperage, and timer of X-ray machine.

185. Assist with amalgam restoration.

186. Prepare dental materials for placement.

187. Prepare setup for prophylaxis (cleaning).

188. Triturate amalgam-alloy.

189. Prepare silicate for restoration.

190. Prepare zinc phosphate cement for protective base.

191. Prepare setup for fluoride treatment.

192. Prepare alginate for impression by dentist.

193. Fill alginate tray.

194. Prepare setup for endodontics (root canal therapy).

195. Prepare setup for prosthetics.

196. Load carrier and place amalgam in cavity preparation.

197. Prepare compound for impression by dentist.

198. Prepare setup for periodontal treatments.

199. Prepare tray setup for orthodontic treatments.

200. Prepare non-carpule hypodermic syringe for injection of medications.

201. Place matrix for amalgam restoration.

202. Heat or prepare gutta percha for temporary stopping.

203. Condense amalgam restorations.

204. Receive and preserve biopsy specimens.

205. Pour final impressions to produce master cast.

206. Pour, trim, and articulate cast.

207. Fabricate impression trays from preliminary impressions.

208. Pour casts of orthodontic deformities.

209. Fabricate trial baseplates and occlusal rims for complete dentures.

210. Make removable partial denture prosthesis for occlusal adjustments.

211. Fabricate individual surgical trays for immediate dentures.

212. Complete simple denture repairs.

213. Fabricate temporary removable bite raisers.

214. Finish and polish gold alloy inlays, crowns or fixed partial dentures.

215. Replace tube teeth or facings.

216. Ditch the die.

217. Recognize and identify various types of dental instruments and equipment.

218. Evaluate dental radiographs for diagnostic quality.

219. Establish and maintain current estimated length-of-day data for use by Bed Utilization Committee and Bed Expediter.

220. Interpret the dental prescription.

221. Prepare statistical reports.

222. Take/transcribe minutes of meetings.

223. Inform and advise administration as to trends and significant data.

224. Provide reports or extract data for Medical Staff Committees.

225. Check records (charts) for deficiencies.

226. Develop and maintain a filing system for data-processing printouts.

227. Abstract information for record and list on discharge analysis form (manual processing).

228. Prepare deficiency check-off lists.

229. Code diseases and operations using prescribed classification system.

230. Abstract information from record (including medical audit).

231. Effect completion of records by other departments.

232. Notify physicians concerning incomplete records.

233. Transcribe from recording machines using magnetic belts or recorded discs.

234. Type information onto various forms.

235. Change discs, belts, or tapes on recording equipment.

236. Maintain daily production record.

237. Recommend policies for departmental functions.

238. Assist administration in defining responsibilities of the medical records department.

239. Plan for recording storage, and retrieval of clinical history and statistics by electronic data processing.

240. Develop report format and content.

241. Construct palatal relief.

242. Solder contact on crown.

243. Solder bridge.

244. Pickle casting.

245. Grind and polish crown.

246. Wax-up/flask process acrylic facing/crown/bridge.

247. Reduce sharp edges of fractured tooth.

248. Repair complete/partial denture, e.g., replace one or more teeth.

249. Bend wire for clasp.

250. Examine brushing effectiveness; indicate deficient areas to patient.

251. Construct broken stress/precision attachment bridge.

252. Construct cleft palate splint/removable expansion appliance.

253. Tripod/mark master cast.

254. Fit orthodontic band, indirect.

255. Duplicate complete denture.

256. Make temporary bridge/splint.

257. Exchange bur/mandrel/mounted/stone diamond in dental handpiece.

258. Add teeth to complete/partial denture.

259. Fabricate artificial teeth for characterized denture.

260. Flash/pack/cure/deflask denture or partial reline/repair/duplicate.

261. Perform emergency orthodontic repair.

262. Make temporary acrylic resin jacket crown.

263. Dehydrate refractory cast.

264. Select shade and mold for crown/bridge.

265. Prepare cast for altered cast impression.

266. Design removable partial denture.

267. Clean/polish removable appliance.

268. Prepare/apply characterized procelain restoration.

269. Construct dental splint, plastic.

270. Border mold/muscle trim custom tray.

271. Prepare die from cast.

272. Make habit control device.

273. Make individual surgical tray for immediate denture.

274. Fabricate surgical template.

275. Polish and finish partial denture framework.

276. Bake and finish procelain restoration.

277. Repair complete/partial denture(no teeth damage).

278. Pour refractory cast.

279. Operate audiovisual equipment, e. g., projector, recorder, etc.

280. Mount final cast to adjustable articulator.

281. Cast crown/bridge/inlay in gold.

282. Make orthodontic space maintainer/retainer.

283. Wax-up/shape/contour removable appliance for try-in final processing.

284. Remove plaster/stone cast from impression after setting.

285. Perform selective grinding of denture.

286. Process acrylic facing on bridge.

287. Remove teeth from metal framework.

288. Prepare orthodontic retainer.

289. Sandblast partial denture framework/chrome castings.

290. Transfer design from master cast to refractory cast.

291. Disassemble bridge.

292. Reset teeth for complete/partial denture.

293. Sandblast gold appliance.

294. Make soldering index.

295. Design post dam.

296. Set up artificial teeth on removable partial denture framework.

297. Inspect dental case/model for acceptance.

298. Adjust partial framework.

299. Prepare necessary ingredients for dental casting.

300. Duplicate master cast.

301. Survey cast for partial denture design.

302. Adjust fixed bridge/splint.

303. Make/transfer coping.

304. Carve and restore anatomical landmarks on dental restoration.

305. Weld/solder orthodontic band.

306. Adjust wrought gold clasp and bar.

307. Fabricate orthodontic appliance, e.g., Hawley.

308. Finish and polish metallic framework.

309. Solder chrome cobalt casting.

310. Set up teeth in balanced occlusion for complete denture.

311. Put post dam on master cast.

312. Remount complete denture for occlusal adjustment.

313. Bead and box final impression.

314. Select teeth for removable prosthetic appliance.

315. Finish and polish gold alloy inlays, crown, or fixed partial dentures.

316. Complete simple denture repairs.

317. Design and position palatal reliefs.

318. Cast gold crown, inlay or pontic backing.

319. Remount complete dentures for occlusal.

320. Pickle and heat treat gold inlays, crowns, or pontics.

321. Fabricate immediate complete or removable partial dentures.

322. Wax-up and care inlays, crowns, or pontics for fixed partial bridges.

323. Apply foil or tinfoil substitute to complete/partial denture.

324. Complete complex denture repairs.

325. Bead and box complete or partial denture impressions.

326. Reline dentures by flask method.

327. Stabilize baseplates.

328. Solder units of fixed partial dentures.

329. Polish or glaze porcelain facing, teeth, or pontics.

330. Survey and design removable partial dentures.

331. Fabricate individual surgical trays for immediate dentures.

332. Block out and relieve master casts.

333. Fabricate broken stree or precision attachment bridges.

334. Select and set up artificial teeth on complete/partial denture framework.

335. Fabricate baked procelain-to-gold restorations.

336. Fabricate orthodontic space maintainers or retainers.

337. Characterize and apply stains to porcelain facings, crowns, and pontics.

338. Fabricate ceramic porcelain jackets.

339. Fabricate mouth guards.

340. Fabricate electroformed dies.

341. Pour orthodontic casts.

342. Fabricate removable expansion appliances.

343. Fabricate splints for immobilization of fractures of maxilla and mandible.

344. Fabricate amalgam dies.

345. Fabricate cast metal bases for complete dentures.

346. Fabricate face masks for before-and-after presentations of special cases.

347. Estimate amounts of precious metals or chrome-cobalt alloys required for casting.

348. Survey and design study casts.

349. Characterize denture base materials.

350. Prepare setup for periodontal treatments.

351. Prepare dental materials for placement.

352. Prepare acrylic for restoration.

353. Load carrier and place amalgam in cavity preparation.

354. Prepare zinc phosphate cement for protective base.

355. Place matrix for amalgam restoration.

356. Remove plaque and stain, and polish teeth.

357. Clean interproximal surfaces of teeth with dental floss or tape.

358. Use ultrasonic devices to remove calculus.

359. Apply disclosing solutions to the teeth to identify bacterial plaque.

360. Remove subgingival/supragingival calculus.

361. Polish finished restorations.

362. Apply fluoride to teeth.

363. Perform periodontal charting.

364. Perform root planning procedures.

365. Desensitize hypersensitive teeth.

366. Apply topical medications.

367. Perform soft tissue curettage.

368. Remove overhanging margins of fillings.

369. Smooth enamel fractures.

370. Remove/insert temporary fillings.

371. Remove/prepare surgical periodontal packs.

372. Pour casts of orthodontic deformities.

373. Polish removable partial denture base.

374. Fabricate ceramic porcelain jackets.

375. Locate and assess the amount of stains and deposits.

376. Recognize conditions indicated in history that require alteration procedure.

377. Identify abnormalities in soft tissues of the mouth.

378. Identify extra-oral habits affecting occlusion.

379. Identify deviate swallowing patterns.

380. Make/approve menu changes.

381. Compute portions for modified diets.

382. Weigh and measure where indicated to meet dietetic requirement.

383. Tally order for tray line and production areas.

384. Prepare menu slips and tray cards.

385. Check menu with tray contents and correct where needed.

386. Check meals for quality food service.

387. Provide menu substitutions, second portions or special items for patient needs.

388. Select recipes to be used.

389. Review recipes and record adjustments at regular intervals.

390. Calculate diets when necessary.

391. Determine kinds and quantity of food needed.

392. Determine use of carry-over food.

393. Obtain nutrient analysis data on food products.

394. Formulate objectives and goals of dietary department.

395. Develop policies for coordinating dietary activities with other departments in the facility.

396. Develop diet manual and keep updated.

397. Plan menus.

398. Verify nutritional adequacy of daily menu planning.

399. Expand or decrease recipe quantity.

400. Calculate and plan diet patterns.

401. Write therapeutic diets.

402. Survey market for new food products.

403. Test new food products.

404. Exercise precautions in administering and handling potentially dangerous agents.

405. Make recovery anesthetic bed.

406. Apply and remove braces.

407. Administer nasogastric.

408. Regulate intravenous fluids.

409. Irrigate bladder/colostomy/wound.

410. Instill solutions into bladder/wound.

411. Connect catheters and tubing to drainage.

412. Check and maintain drainage tubing with/without suction.

413. Insert urinary catheters.

414. Assist with/apply rib belts.

415. Apply hot bottle, hot and cold packs, hot and cold soaks, hot and cold compresses, cold ice bag.

416. Administer sitz, tepid, and alcohol baths.

417. Apply thermal blanket.

418. Give oral medications.

419. Do cultures (nose, throat, wound).

420. Assist personnel in giving nursing care.

421. Review scheduled appointments with doctor.

422. Total and reconcile entries made in a record of original entries.

423. Post totals from original entry record to combined or special journals.

424. Centrifuge sample of the urine specimen.

425. Perform bio-chemical tests (e.g., glucose, protein, etc.) using paper strips or tablet.

426. Perform bile tests (simple tablet method).

427. Examine urine specimens microscopically.

428. Obtain blood specimen from capillary.

429. Obtain blood specimen from vein.

430. Prepare and stain blood smears.

431. Perform hemoglobin test/hematocrit reading.

432. Perform red blood cell count (RBC).

433. Perform erythrocyte sedimentation rate (SED RATE).

434. Perform white blood cell count (WBC).

435. Operate colorimeter/hemoglobinometer/microhematocrit reader.

436. Operate manual/automatic cell counting equipment.

437. Inoculate specimen in culture media.

438. Prepare wet mounts.

439. Stain microbial specimens.

440. Examine stained specimens microscopically.

441. Assist in obtaining smears.

442. Assist in obtaining tissue specimens.

443. Use sterilization color indicators to test sterilizer.

444. Handle and store sterilized material to prevent contamination.

445. Assist physician during EKG test.

446. Monitor EKG graph for abnormal or erratic tracings.

447. Mount EKG graph on card.

448. Operate EKG machine.

449. Prepare a tray for routine/special procedures.

450. Review and confirm doctor's orders to administer an injection.

451. Administer heat, electrotherapy, light and ultrasonic treatment.

452. Describe the nature of patient's illness or injury.

453. Assist physician in performing visual/hearing acuity, tests.

454. Give tests for color blindness.

455. Assist physician in performing scratch/patch test.

456. Assist physician in performing a cervical cauterization.

457. Assist physician in application of cast.

458. Receive and primary process cultures.

459. Record/report colony counts on urine, etc.

460. Stain bacteriological smears.

461. Streak plates.

462. Cultivate mycology specimens for primary isolation.

463. Perform KOH preparation for dermatophytes.

464. Stain mycology specimens.

465. Examine specimens macroscopically/microscopically.

466. Perform concentration and flotation techniques.

467. Identify parastic and disease-carrying arthropods.

468. Identify protozoans, cestodes, nematodes, and trematodes.

469. Stain parasitological smears.

470. Perform antistreptolysis "o" titers.

471. Perform colloidal gold test.

472. Perform "C" reactive protein tests.

473. Perform febrile agglutination (e.g.,salmonella) tests.

474. Perform heterophile presumptive test.

475. Perform infectious mononucleosis procedures monospot or monotest.

476. Perform latex fixation test.

477. Perform rheumatoid arthritis test (RA).

478. Perform and read agglutination tests.

479. Perform and read flocculation tests.

480. Perform VDRL test.

481. Perform bleeding time procedures.

482. Prepare and stain blood smears.

483. Perform clot retraction test.

484. Perform venous whole blood coagulation time tests.

485. Perform differential cell counts.

486. Perform eosinophil count.

487. Perform erythrocyte fragility tests.

488. Perform fibrinogen deficiency tests.

489. Perform fibrinolysis tests.

490. Perform hematocrit tests.

491. Perform hemoglobin tests.

492. Prepare lupus erythematosus (L. E.) slides.

493. Stain and read malaria smears.

494. Perform partial thromboplastin time (PTT) test.

495. Perform platelet count.

496. Perform prothrombin consumption and time test.

497. Perform reticulocyte cell count.

498. Perform erythrocyte sedimentation rate.

499. Perform sickle cell preparations.

500. Perform spinal fluid cell counts.

501. Perform acetone or ketone tests.

502. Perform Addis counts.

503. Perform Bence-Jones protein tests.

504. Perform bile tests.

505. Perform bilirubin test.

506. Perform true glucose tests.

507. Perform urine hemoglobin (blood) test.

508. Perform ph tests.

509. Perform porphyrins tests.

510. Perform pregnancy tests.

511. Perform qualitative urine protein tests.

512. Perform specific gravity tests.

513. Perform urobilinogin tests.

514. Perform acid phosphatase test.

515. Perform serum albumin tests.

516. Perform A/G ratio.

517. Perform blood alcohol test.

518. Perform alkaline phosphatase test.

519. Perform amylase test.

520. Perform bilirubin (direct/indirect) test.

521. Perform bromosulphalein retention (BSP) test.

522. Perform calcium tests.

523. Perform calculus anaylsis tests.

524. Perform carbon monoxide/carbon dioxide determinations.

525. Perform cephalin flocculations.

526. Perform chlorides tests.

527. Perform total cholesterol tests.

528. Perform creatine phosphokinase (CPK) tests.

529. Perform serum creatinine tests.

530. Perform creatinine clearance tests.

531. Perform enzyme analysis tests.

532. Perform gastric analysis tests.

533. Perform glucose tests.

534. Perform glucose tolerance tests.

535. Perform serum glutamic oxalacetic transaminase (SCOT) test.

536. Perform serum glutamic pyruvic transaminase (SGPT) test.

537. Perform iceterus index tests.

538. Perform lactic dehydrogenase (LDH) tests.

539. Perform lipase tests.

540. Perform blood oxygen tests.

541. Perform phenosulfonphthalein (PSP) excretion test.

542. Perform phosphorus tests.

543. Perform potassium determinations.

544. Perform urine prophyrin and/or porphobilriogen tests.

545. Perform total protein tests.

546. Perform salicylate level tests.

547. Perform sodium determinations.

548. Perform thymol turbidity tests.

549. Perform blood urea nitrogen (BUN) tests.

550. Perform xylose tolerance tests.

551. Centrifuge and separate serum from clot.

552. Crossmatch blood.

553. Perform antibody screen and identification tests.

554. Perform antibody titers (dilutions).

555. Perform direct and indirect Coombs tests.

556. Perform genotype of blood.

557. Perform transfusion reaction studies.

558. Prepare and read slide/tube agglutination reactions.

559. Process blood for packed cells.

560. Test blood for ABO grouping and ABO sub-grouping.

561. Test blood for RH and DU factors.

562. Embed/mount/section tissues in preparation for microscopic study.

563. Stain pap smears.

564. Stain specimens for microscopic study.

565. Identify and classify pathogenic bacteria/fungi/parasitic arthropods/protozoans/testodes/nematodes/trematodes.

566. Calculate erythrocyte indices.

567. Microscopically identify L.E. cells.

568. Identify morphological variations of red or white blood cells.

569. Select activities for treatment plan based on client preferences.

570. Prepare materials for therapy sessions in advance.

571. Use client behavioral modification techniques to achieve desired behaviors.

572. Evaluate progress of client during treatment sessions.

573. Plan activities typical of normal neuromuscular development within bounds of client's capabilities.

574. Provide activity which develop motor skills (gross, fine, reflex, and perceptual).

575. Provide activity which develop postural reactions.

576. Plan activities typical of normal cognative/discriminative development within bound of client's capabilities.

577. Provide activity which calls for one to several mental steps.

578. Provide activities which encourage conceptual development.

579. Provide activities which develop self-expression/interpersonal relationships.

580. Provide activities to optimize strength, endurance, range of motion and coordination.

581. Modify, adjust or fabricate body supports or controls as needed and as directed.

582. Check for proper fit on splints, body supports, and controls by observing white/red pressure spots.

583. Provide problem solving situations in use of prosthetic device.

584. Assist in evaluation client's work habits/tolerance level/work skills.

585. Recommend other therapies to client as needs arise.

586. Review patient's clinical history.

587. Load and unload film units.

588. Affix lead shield to cassette for identification.

589. Prepare contrast media such as barium sulphate.

590. Administer radiopaque Preparations.

591. Take X-rays (dental /abdominal/spinal/chest/etc.).

592. Take X-rays of ribs and sternum, extremities.

593. Operate image itensifier fluoroscopic units.

594. Operate mobile X-ray units.

595. Assist with cerebral angiograms, bronchiograms, arthrograms, hysterosalpingograms.

596. Assist with laminograms, mammograms, chlogiograms, intravenous phylograms and IVs.

597. Assist with sialograms, scanograms, pneumoencephalograms, urographic studies.

598. Assist with upper GI series, stereoscopic X-rays, ventricueograms.

599. Assist with X-rays for cholecystographic studies.

600. Assist with X-rays for contrast studies of large bowel or colon and esophagus.

601. Assist with X-rays of small intestine, pelvimetric studies.

602. Assist with fistula or sinus tract X-rays.

603. Develop technical procedures for special radiology examination.

604. Operate treatment (IPPB) respirators.

605. Operate assister/controller respirators.

606. Operate aerosol generators (steam vaporizer type, bubble type, jet type).

607. Operate humidifiers (vebulizer, centrifuge, ultrasonic).

608. Administer oxygen by mask, tent, nasal devices, incubator.

609. Operate CO_2 rebreathers.

610. Perform artificial respiration.

611. Give tracheostomy care.

612. Perform chest physiotherapy.

613. Use mixed gases in treatments.

614. Use bronchodilators as directed.

615. Use detergents as directed.

616. Use mucolytics as directed.

617. Use proteolytic enzymes.

618. Use antifoam agents as directed.

619. Use hypothermic techniques.

620. Alter respirator settings on basis of observations.

621. Mix and measure drug doses.

622. Recognize expected reactions to treatment.

623. Recognize complications of adverse reactions to treatments.

624. Minimize hazards throughout the health care facility.

625. Arrange equipment for convenient and safe use.

626. Utilize procedures to prevent dissemination of bacteria when making beds.

627. Accurately measure body temperature and read clinical thermometer for oral, rectal and axillary temperature.

628. Operate and adjust examining tables.

629. Instill solutions into eye, ear, nose.

630. Prepare medications.

631. Read cardiac monitors.

632. Read fetal monitors.

633. Understands cause and prevention of decubitt.

634. Knows routine for fire in patient area and demonstrates knowledge of procedures for securing the building and reassuring and aiding patients.

635. Has an understanding of fire prevention and control.

636. Implement home treatment plan by visiting patient at home.

637. Introduce patient to activities appropriate to his capabilities.

638. Help patient make contacts with various agencies within the community.

639. Guide patient in use of prosthetic devices.

640. Help patient develop written and oral communication skills.

641. Instruct patient about available self-help devices.

642. Work with patient to develop vocational skills.

643. Teach inhalation therapy procedures to patients.

644. Check patients with respiratory problems for open airways.

645. Immediately report deviations of patient's vital signs from the normal.

646. Follow procedures in care of isolated patients.

647. Instruct patient with regard to collection of specimen (fecal, urine, eye, nose, throat).

648. Prepare, instruct and assist patient during EKG test.

649. Give instructions to patient regarding medication.

650. Persuade and motivate patients to participate in therapy sessions.

651. Direct patient to project completion by praise and encouragement.

652. Teach patient to perform activity by instructing and demonstrating.

653. Adapt teaching techniques to capabilities of patient.

654. Remove impressions from patient's mouth.

655. Take impressions for study models.

656. Cut and remove sutures postoperatively.

657. Apply coagulants or administer hemo-statics.

658. Assist with gold foil restoration.

659. Place/remove temporary cement.

660. Place/remove periodontal surgical pack.

661. Hand mallet gold foil.

662. Remove medication (dry socket).

663. Select appropriate home care technique for each patient.

664. Evaluate dietary habits and instruct patient on proper nutrition.

665. Remove fecal impactions.

666. Give physiotherapy instruction for temporamandibular joint difficulty.

667. Suction patient's nose/throat passage.

668. Administer medications/isotopes to patients by injection/orally.

669. Perform superficial/specialized examination of patients.

670. Abstract simple data from patient's chart.

671. Position, gown/drape patient.

672. Prep patient using correct procedures and solutions.

673. Prepare patient for skeletal traction.

674. Teach patients how to use crutches, walkers, etc.

675. Teach patients exercise programs.

676. Assist patients with vocational/family counseling.

677. Assist with oral surgery procedures.

678. Aspirate during oral surgery.

679. Assist with the administration of local anesthetics.

680. Evacuate oral cavity diring restorative procedure.

681. Apply water to tooth during cavity preparation.

682. Insert or remove cotton rolls.

683. Assist with rubber dam application and removal.

684. Stabilize patient's mandible during operations.

685. Dispense medications when ordered by health professional.

686. Hold impression in mouth after dentist places impression tray.

687. Apply hand mallet in surgical procedures.

688. Deliver/remove equipment/supplies from contaminated room.

689. Dispose of contaminated materials and equipment.

690. Change soiled linen and clothes.

691. Clean patient unit furniture.

692. Clean and maintain service area and equipment, within area of responsibility.

693. Order/inventory and store equipment and supplies.

694. Calibrate nuclear medical instruments.

695. Verify performance of instruments/devices against manufacturer's specifications.

696. Determine if equipment needs repair.

697. Schedule/perform maintenance on equipment.

698. Store/handle radioisotopes safely.

699. Safely dispose of radioactive wastes.

700. Inventory radiopharmaceuticals and materials.

701. Properly store traction equipment.

702. Clean, sharpen and maintain instruments/equipment as required.

703. Control contractual services for maintenance of equipment/facilities.

704. Maintain unexposed radiographic film storage.

705. Establish and maintain chain of antisepsis.

706. Prepare instruments for sterilization (chemical, autoclaving, dry heat).

707. Sterilize instruments (chemical, autoclaving, dry heat).

708. Inspect all area and rooms for proper housekeeping, temperature, and adequate supplies.

709. Clean and polish removable appliances.

710. Order foodstuffs according to established minimum and maximum stock levels or according to menu.

711. Check and record temperatures of appliances/equipment.

712. Store/dispose of used blood containers and pilot tubes.

713. Check invoices against purchase orders.

714. Organize storage areas for equipment, supplies, drugs.

715. Evaluate the effectiveness of sanitizing chemicals and sprays used.

716. Schedule regular checks for radiation leakage.

717. Check radiation monitoring badges.

718. Evaluate and select odor controlling aerosols.

719. Follow procedures for control and security of medical supplies, drugs, equipment.

720. Reline dentures by articulator method.

APPENDIX II

SOURCES OF LOCATOR INFORMATION

OCCUPATION	SOURCE
A.R.T.	Iowa Medical Records Association c/o Iowa Hospital Association 1906 Ingersoll Avenue Des Moines, Iowa 50309
D.A.	American Dental Assistant Association Suite 1230 211 E. Chicago Avenue Chicago, Ill. 60611
D.H.	American Dental Hygienist's Association Suite 1230 211 E. Chicago Avenue Chicago, Ill. 60611
D.L.T.	National Association of Dental Laboratories, Inc. 3801 Mt. Vernon Avenue Alexandria, Va. 22305
Diet T.	The American Dietetic Association 430 N. Michigan Avenue Chicago, Ill. 60611
LPN & RN	Iowa State Board of Nursing 300 4th Street Des Moines, Iowa 50309
M.A.	American Association of Medical Assistants Suite 1510 1 East Wacker Drive Chicago, Ill. 60601
M.L.A. M.L.T.	American Society of Clinical Pathologists 2100 West Harrison Street Chicago, Ill. 60612
N.M.T.	American Medical Technologists 710 Higgins Road Park Ridge, Ill. 60068
A/O	Des Moines Area Community College Shortcourse Office Adult and Continuing Education Division Ankeny, Iowa 50021
Occ. T.	American Occupational Therapy Association 6000 Executive Blvd. Rockville, Maryland 20852

O.P.A.	Kirkwood Community College Cedar Rapids, Iowa 52406
	Chattanooga State Technical Institute Chattanooga, Tennessee 37401
O.R.T.	Association of Operating Room Technicians 1100 West Littleton Blvd., Suite 201 Littleton, Colorado 80120
Rad. T.	American Registry of Radiologic Technicians 2600 Wayzota Blvd. Minneapolis, Minnesota 55405
Resp. T.	American Society for Respiratory Therapy 7411 Hines Place, Suite 101 Dallas, Texas 75235

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